

Preliminary Report on
unnamed tropical storm
(formerly Tropical Depression One-E)
13-16 May 1996

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a. Synoptic History

The tropical storm formed about 800 miles to the south of the southern tip of Baja California, likely from a tropical wave analyzed to have crossed Central America and northern South America on 8 May. The associated thunderstorm activity was limited and sporadic until early on the 13th when it expanded and became more persistent. A band of deep convection developed on the northwest side of the system that morning. Dvorak T-numbers from the NESDIS Synoptic Analysis Branch (SAB) and the TPC Tropical Analysis and Forecast Branch (TAFB) reached 1.5 at 0600 UTC and then 2.0 at 1130 UTC that day. Based on those analyses, it is estimated that the system became a tropical depression at 0600 UTC on the 13th (Fig. 1 and Table 1).

The cyclone moved toward the west-northwest at about 10 knots during its three-day existence and did not affect land.

There is uncertainty about the maximum intensity reached by this tropical cyclone. Operational estimates of 30 knots were based on application of the Dvorak technique. Those analyses of satellite pictures showed little variation, ranging from 30 knots by the Air Force Global Weather Central (AFGWC) and the TAFB, to 35 knots by the SAB. These maxima were generally centered on the early hours of 14 May, when a small core of deep convection developed in an environment with a southerly component of vertical wind shear. Subsequently, the U.S. Coast Guard relayed reports to the National Hurricane Center from the vessel *Solar Wind* suggesting that the cyclone had maximum winds of tropical storm strength on the 14th.

Deep convection near the circulation center became spotty by late on the 14th and then disappeared completely on the night of the 15th-16th. The system dissipated on the 16th.

b. Meteorological Statistics

Figures 2 and 3 show the tropical storm's estimated central pressure and maximum one-minute wind speed, respectively, versus time and the associated satellite and ship intensity data. Position and intensity estimates from satellite pictures were provided by the AFGWC, TAFB and SAB.

The Coast Guard reported that at least two vessels, including the 37-ft trimaran **Solar Wind** and the **True Blue** were affected by the cyclone. Analysis of satellite pictures early on the 14th suggests that the **Solar Wind** was located in the general vicinity of an isolated thunderstorm cluster seen just north of the circulation center. The **Solar Wind** observed a wind speed of 35-42 knots for an unspecified period near 0400 UTC on the 14th and the anemometer showed its maximum capability, 60 knots, for an unknown duration near 0600 UTC. The 0400 UTC report from that ship also included an observation of 4-6 ft seas, which would be generally consistent with either localized, transitory winds of the magnitude reported or lower wind speeds than noted. The **True Blue** was located about 50 miles to the north of the **Solar Wind** during this period and reported winds of 20 knots. The maximum one-minute wind speed for this storm is now estimated to have been 45 knots at 0600 UTC on the 14th.

c. Casualty and Damage Statistics

Communications with the **Solar Wind** were lost after 0600 UTC on the 14th. The Coast Guard began, but later suspended, a search for the vessel and its two-man crew. The fate of the crew remains unknown.

d. Forecast and Warning Critique

The tropical cyclone was of tropical storm strength for too short a period to obtain a meaningful quantitative evaluation of forecast track accuracy.

The observations and analyses of this tropical cyclone serve as reminders of the large uncertainty often associated with tropical cyclone intensity estimates. They also call attention to the great importance and scarcity of reliable surface weather observations in the vicinity of tropical cyclones. Such limitations diminish the accuracy and reliability of warnings.

Table 1. Preliminary best track, unnamed tropical storm, 13-16 May 1996.

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
13/0600	11.1	113.9	1009	25	Tropical Depression
1200	11.3	115.2	1008	30	" "
1800	11.6	116.3	1006	30	" "
14/0000	11.8	117.5	1003	40	Tropical Storm
0600	12.1	118.8	1000	45	" "
1200	12.4	119.9	1002	40	" "
1800	12.8	121.0	1005	35	" "
15/0000	13.0	121.8	1006	30	Tropical Depression
0600	13.2	122.6	1007	30	" "
1200	13.4	123.4	1007	30	" "
1800	13.6	124.2	1008	30	" "
16/0000	13.8	124.9	1008	30	" "
0600	14.0	125.7	1008	25	" "
1200	14.1	126.3	1009	25	" "
1800	14.2	126.7	1009	25	" "
17/0000					Dissipated

14/0600 12.1 118.8 1000 45 Minimum Pressure

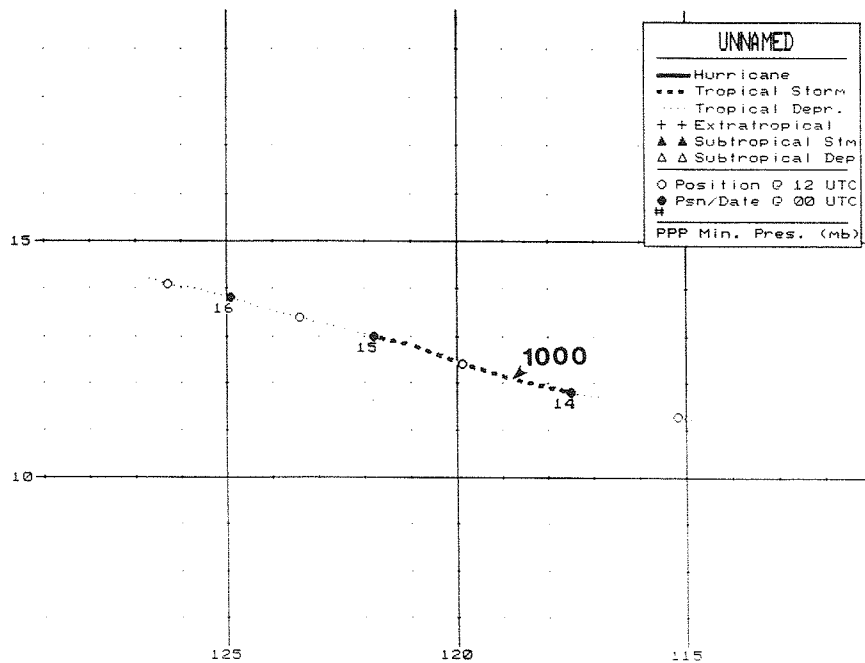


Figure 1. Best track positions for unnamed tropical storm.

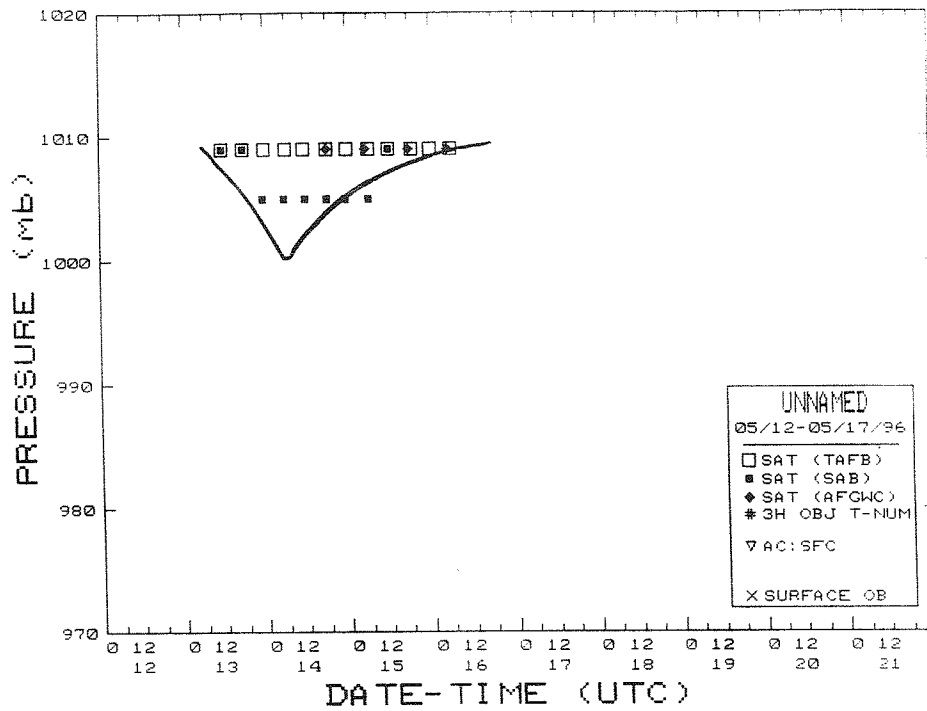


Figure 2. Best track central pressure curve for unnamed tropical storm, 13-16 May 1996.

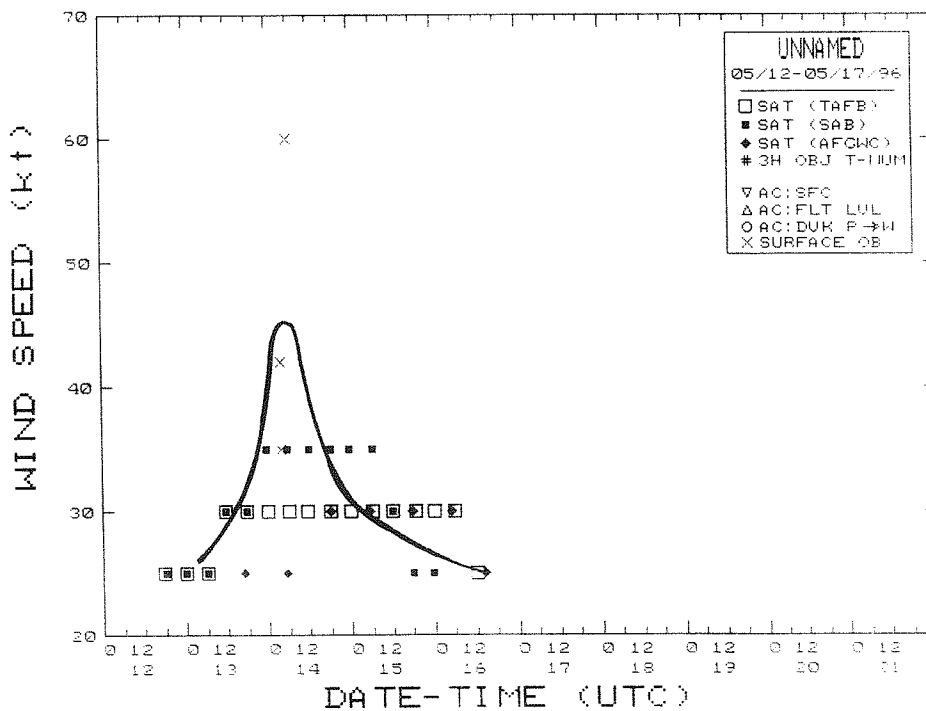


Figure 3. Best track maximum wind speed curve for unnamed tropical storm, 13-16 May 1996.